

Fig. 12. X-view of Fig. 11.

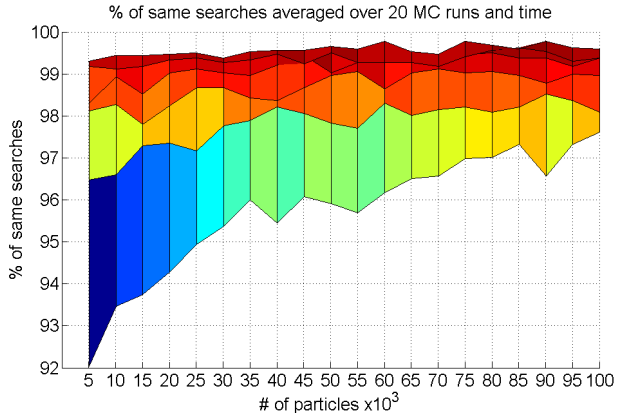


Fig. 13. Y-view of Fig. 11.

action that will yield the maximum expected probability of detecting the target.

The second implication is that the criterion which is based on the highest probability of detection not only has practical meaning but it is also computationally less expensive to implement, see Eq. (23) and (27). In fact, Eq. (29) means that the implementation of the criterion boils down to just performing a particle count for determining  $n_u$ , since  $N, P_d$  are constant and known in advance.

From the previous two paragraphs one can conclude that even when it is possible to explain what it means practically to maximize the KLD, its use is not always justified. For instance, in the presented examples the KLD has a higher computational complexity than the intuitive task-based criterion.

Some topics that we would like to explore in the future are:

- We would like to compare our approach to other approaches, such as the one presented in [13], in terms of both search results and computational efficiency.
- Another interesting topic is to explore the behavior of the described criteria in multitarget scenario where external information is also available.
- Because the compared criteria appear to give different results for low RCS targets, we can see that the criteria are not in general equivalent when the probability of detection varies and this phenomenon warrants further attention.

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